

REMARKS / ARGUMENTS

Claims 1-19 are presently in this application. Claims 1-19 are rejected. Claims 1 and 13-14 have been amended. Claims 20-26 have been added.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a), as obvious over Colle et al. (5,491,269), Colle (6,222,083) and Peiffer et al. (6,194,622). Applicants respectfully traverse these rejections in light of the amendments to the claims and the following remarks.

The present invention adds water to a hydrocarbon containing fluid to enhance the watercut of the hydrocarbon containing fluid. Sufficient water may be added such that, even though hydrates may form from hydrocarbon hydrate forming components in the hydrocarbon containing fluid, such hydrates cooperate with the added water to form a flowable slurry rather than allowing the hydrates to form a plug in the flow line. As a side benefit of adding water, the hydrate equilibrium temperature of the hydrocarbon containing fluid may be lowered. Another benefit is that the cost of providing substantial quantities of expensive conventional hydrate inhibitors, such as alcohols, glycols or other surfactant or polymeric-based hydrate inhibitors, need not be incurred. Furthermore, the handling and disposal of these sometimes problematic hydrate inhibitors, such as alcohols, glycols or other surfactant or polymeric-based hydrate inhibitors, etc., is thus minimized or avoided completely.

Claim 1 has been amended to recite that the water added to the hydrocarbon containing fluid should be free of substantial quantities of hydrate inhibitors chosen from the group of alcohols, glycols, and surfactant or polymeric-based hydrate inhibitors. (Note: it is intended that scope of protection of claim 1 should not be avoided by adding insubstantial quantities of hydrate inhibitors for the purposes of avoiding claim 1.) The water added to the hydrocarbon containing fluid is the primary mechanism to prevent hydrate formation blockage in a flow line rather than relying on substantial quantities of hydrate inhibitors, including alcohols, glycols or other surfactant or polymeric-based hydrate inhibitors. The cited references teach away, rather than

suggest, the invention as recited in claim 1, by teaching that polymeric based hydrate inhibitors, inherently in substantially large enough quantities to be effective, should be the source preventing hydrate formation and thus blockage in a flow line.

Claim 14 has been amended to recite that the water to be added to the hydrocarbon containing fluid comes from a water injection conduit which is in fluid connection with one of a source of sea water, fresh water, a subsea well or water produced from fluids from a hydrocarbon producing well bore. Claims 21-23 more specifically recite the source from which a water injection conduit may receive its water.

Claims 24-26 had been added. Claim 24 specifies that water should be added to enhance the water cut of the water cut enhanced hydrocarbon containing fluid so that the water cut is greater than 50%. Claim 25 requires that sufficient water is added such that hydrate formation is self limiting as hydrocarbon hydrate forming components in the water cut enhanced hydrocarbon containing fluid are exhausted through the formation of hydrate particles. Claim 26 provides that sufficient water is added such that the hydrocarbon containing fluid is converted from a water-in-oil emulsion to a water-continuous emulsion.

Applicants respectfully disagree with the Examiner's assertion that "any convenient concentration of inhibitor in the carrier solvent can be used" anticipates or makes obvious, the claims as now amended. There is no teaching of the specific water cuts specified in some of claims, or of the conversion of the hydrocarbon containing fluid by the addition of water, or of the exhaustion of the hydrocarbon hydrate forming components by the formation of hydrates. Accordingly, none of the cited references, either individually or in combination, teach the claim limitations found in claims 1-26. For the above reasons, claims 1-26 are believed to be allowable over the cited references.

REQUEST FOR ALLOWANCE

In light of the above amendments and remarks, the Applicants respectfully request reconsideration and allowance of this application.

Respectfully submitted,



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Date: February 13, 2006